Boeing Company
Santa Susana Field Laboratory
(NPDES NO. CA0001309)

LIMITS COMPARISON TABLE

Limits Comparison Table 1 The Boeing Company, Santa Susana Field Laboratory (NPDES Permit No. CA0001309) Outfalls 011, 018; Benchmarks*- Outfalls 001 and 002				
Constituent	**Units**	**Current Daily Maximum**	**Proposed Daily Maximum**	**Reason for Change (Basis for Limit)**
pH	pH Units	6.5/8.5	6.5/8.5	None
Temperature	^{o}F	86	86	None
Total suspended solids	mg/L	45	45	None
	lbs/day [1]	60,048 [2]	44,222 [3]	[4]
Total dissolved solids	mg/L	950	950	None
	lbs/day [1]	1,270,000 [2]	933,567 [3]	[4]
Total residual chlorine	mg/L	0.1	0.1	None
	lbs/day [1]	133	98.3 [3]	[4]
BOD_5 20^0C	mg/L	30 [2]	30	None
	lbs/day [1]	40,032	29,481 [3]	[4]
Oil and grease	mg/L	15	15	None
	lbs/day [1]	20,016 [2]	14,741 [3]	[4]
Sulfate	mg/L	300	300	None
	lbs/day [1]	400,320 [2]	294,810 [3]	[4]
Fluoride	mg/L	1.6	1.6	None
	lbs/day [1]	2,135 [2]	1,572.3 [3]	[4]
Barium	mg/L	1	1	None
	lbs/day [1]	1,330 [2]	983 [3]	[4]
Iron	mg/L	0.3	0.3	None
	lbs/day [1]	400 [2]	295 [3]	[4]
Chloride	mg/L	150	150	None
	lbs/day [1]	200,160 [2]	147,405 [3]	[4]
Settleable solids	ml/L	0.3	0.3	None
Chlorine, Total Residual	mg/L	0.1	0.1	None
	lbs/day [1]	133.4	98.3	[4]
Detergents (as MBAS)	mg/L	0.5	0.5	None
	lbs/day [1]	667 [2]	491.4 [3]	[4]
Ammonia – N	mg/L	10.1	10.1	None
	lbs/day [1]	13,500 [2]	9,925.3 [3]	[4]
Nitrate – N	mg/L	8	8	None
	lbs/day [1]	10,700 [2]	7,862 [3]	[4]
Nitrite – N	mg/L	1	1	None
	lbs/day [1]	1,334 [2]	983 [3]	[4]
Nitrite + Nitrate as N	mg/L	8	8	None
	lbs/day [1]	10,700 [2]	7,862 [3]	[4]
Cyanide	µg/L	8.5	8.5	None
	lbs/day [1]	11 [2]	8.35 [3]	[4]
Manganese	µg/L	50	50	None
	lbs/day [1]	66.7[2]	49.1 [3]	[4]

Limits Comparison Table 1 The Boeing Company, Santa Susana Field Laboratory (NPDES Permit No. CA0001309) Outfalls 011, 018; Benchmarks*- Outfalls 001 and 002				
Constituent	**Units**	**Current Daily Maximum**	**Proposed Daily Maximum**	**Reason for Change (Basis for Limit)**
Antimony	µg/L	6	6	None
	lbs/day [1]	8 [2]	5.9 [3]	[4]
Arsenic	µg/L	10	10	None
	lbs/day [1]	67 [2]	9.83 [3]	[4]
Beryllium	µg/L	4	4	None
	lbs/day [1]	5.3 [2]	3.93 [3]	[4]
Cadmium	µg/L	4/3.1 [5]	4/3.1 [5]	None
	lbs/day [1]	5.3 [2]/4.1 [5]	3.93 [3]/3.05 [5]	[4]
Chromium VI	µg/L	16	16	None
	lbs/day [1]	22 [2]	15.72 [3]	[4]
Copper	µg/L	14	14	None
	lbs/day [1]	19 [2]	13.76 [3]	[4]
Lead	µg/L	5.2	5.2	None
	lbs/day [1]	6.9 [2]	5.11 [3]	[4]
Mercury	µg/L	0.1	0.1	None
	lbs/day [1]	0.13 [2]	0.1 [3]	[4]
Nickel	µg/L	96	94	BPJ
	lbs/day [1]	126 [2]	92.4 [3]	BPJ [4]
Selenium	µg/L	8.2/5 [6]	8.2/5 [6]	None
	lbs/day [1]	11 [2]/6.7 [6]	8.06 [3]/4.91 [6]	[4]
Silver	µg/L	4.1	4.1	None
	lbs/day [1]	5.5 [2]	4.03 [3]	[4]
Thallium	µg/L	2	2	None
	lbs/day [1]	2.7 [2]	1.97 [3]	[4]
Zinc	µg/L	119	119	None
	lbs/day [1]	159 [2]	117 [3]	[4]
Perchlorate	µg/L	6	6	None
	lbs/day [1]	8 [2]	5.9 [3]	[4]
TCDD	µg/L	2.8E-08	2.8E-08	None
	lbs/day [1]	3.7E-08	2.75E-08 [3]	[4]
Trichloroethylene	µg/L	5	5	None
	lbs/day [1]	6.7 [2]	4.91 [3]	[4]
2,4,6-Trichlorophenol	µg/L	13	13	None
	lbs/day [1]	17 [2]	12.8 [3]	[4]
2,4-Dinitrotoluene	µg/L	18	18	None
	lbs/day [1]	24 [2]	17.7 [3]	[4]
alpha-BHC	µg/L	0.03	0.03	None
	lbs/day [1]	0.04 [2]	0.03	[4]
Bis(2-ethylhexyl) phthalate	µg/L	4	4	None
	lbs/day [1]	5.3 [2]	3.93 [3]	[4]

Limits Comparison Table 1 The Boeing Company, Santa Susana Field Laboratory (NPDES Permit No. CA0001309) Outfalls 011, 018; Benchmarks*- Outfalls 001 and 002				
Constituent	**Units**	**Current Daily Maximum**	**Proposed Daily Maximum**	**Reason for Change (Basis for Limit)**
N-Nitrosodimethylamine	µg/L	16	16	None
	lbs/day [1]	22 [2]	15.72 [3]	[4]
Pentachlorophenol	µg/L	16.5	16.5	None
	lbs/day [1]	22 [2]	16.22 [3]	[4]
1,2-Dichloroethane	µg/L	0.5	0.5	None
	lbs/day [1]	0.67 [2]	0.49 [3]	[4]
1,1-Dichloroethylene	µg/L	6	6	None
	lbs/day [1]	8 [2]	5.9 [3]	[4]
Acute toxicity	% survival	[7]	--	No exceedance. No RP.
Chronic Toxicity	--	$TU_c = 1$ [9]	Pass or % Effect <50 (TST Approach) [8]	Proposed method is USEPA recommended method [10]
Radioactivity - Gross Alpha Gross Beta	 pCi/L pCi/L	 15 50	 15 50	 None None
Combined Radium 226 & Radium-288	pCi/L	5	5	None
Tritium	pCi/L	20,000	20,000	None
Strontium-90	pCi/L	8	8	None

[1] Mass is calculated using the equation:
Mass (lbs/day) = Flow (million gallons per day (MGD)) x 8.34 x concentration (mg/L)

[2] A flow of 160 MGD was used to calculate mass.

[3] A flow of 117.83 MGD was used to calculate mass.

[4] The difference in mass values is due to variance of flow. The flow used in the proposed tentative to calculate the mass is the maximum that will be generated during the 10 year 24-hour storm event, which was estimated using the Storm Water Management Model (SWMM) (USEPA, 2010).

[5] Effluent limit applies only during wet weather discharges, when the maximum daily flow in the LA River is equal to or greater than 500 cubic feet per second (cfs).

[6] Effluent limit applies only during dry weather discharges, when the maximum daily flow in the LA River is less than 500 cfs.

[7] The acute toxicity for all of the effluent discharges shall be such that: (i) the average survival in the undiluted effluent for any three (3) consecutive 96-hour static or continuous flow bioassay tests shall be at least 90%, and (ii) no single test producing less than 70 % survival. No Reasonable Potential.

[8] "Pass" or "Fail" and "% Effect" for Maximum Daily Effluent Limitations (MDEL) using Test of Significant Toxicity (TST) approach. The Discharger demonstrates compliance with the chronic toxicity MDELs if the chronic toxicity testing result meets one of the following:

i. The chronic toxicity testing result is "Pass"; or

ii. The percent effect is less than 50 if the chronic toxicity result is "Fail".

[9] The chronic toxicity of the effluent shall be expressed and reported in toxic units, where:

$$TU_c = \frac{100}{NOEC} = 1$$

The No Observable Effect Concentration (NOEC) is expressed as the maximum percent effluent concentration that causes no observable effect on test organisms, as determined by the results of a critical life stage toxicity test.

[10] More recently, US EPA has recommended the use of a chronic toxicity limit using the Test of Significant Toxicity (TST) method, which is a more sensitive method.

Limits Comparison Table 2
The Boeing Company, Santa Susana Field Laboratory
(NPDES Permit No. CA0001309)
Outfalls 019 and 020 [7]

Constituent	Units	Current		Proposed		Reason for Change (Basis for Limit)
		Daily Maximum	Monthly Average	Daily Maximum	Monthly Average	
pH	pH Units	6.5/8.5	--	6.5/8.5	--	None
Temperature	°F	86	--	86	--	None
Total suspended solids	mg/L	45	15	45	15	None
	lbs/day [1]	113 [2]	38 [2]	54 [3]	18 [3]	[4]
Total dissolved solids	mg/L	950	--	950	--	None
	lbs/day [1]	2378 [2]	--	1140 [3]	--	[4]
Total residual chlorine	mg/L	0.1	--	0.1	--	None
	lbs/day [1]	0.25 [2]	--	0.12 [3]	--	[4]
BOD_5 20^0C	mg/L	30	20	30	20	None
	lbs/day [1]	75 [2]	50 [2]	36 [3]	24 [3]	[4]
Oil and grease	mg/L	15	10	15	10	None
	lbs/day [1]	38 [2]	25 [2]	18 [3]	12 [3]	[4]
Sulfate	mg/L	300	--	300	--	None
	lbs/day [1]	751 [2]	--	360 [3]	--	[4]
Fluoride	mg/L	1.6	--	1.6	--	None
	lbs/day [1]	4 [2]	--	1.92 [3]	--	[4]
Barium	mg/L	1	--	1	--	None
	lbs/day [1]	2.5 [2]	--	1.2 [3]	--	[4]
Iron	mg/L	0.3	--	0.3	--	None
	lbs/day [1]	0.75 [2]	--	0.4 [3]	--	[4]
Chloride	mg/L	150	--	150	--	None
	lbs/day [1]	375 [2]	--	180 [3]	--	[4]
Settleable solids	ml/L	0.3	0.1	0.3	0.1	None
Detergents (as MBAS)	mg/L	0.5	--	0.5	--	None
	lbs/day [1]	1.25 [2]	--	0.6 [3]	--	[4]
Ammonia – N	mg/L	10.1	1.96	10.1	1.96	None
	lbs/day [1]	25.3 [2]	4.9 [2]	12.12 [3]	2.35 [3]	[4]
Nitrate – N	mg/L	8	--	8	--	None
	lbs/day [1]	20 [2]	--	9.62 [3]	--	[4]

Limits Comparison Table 2 The Boeing Company, Santa Susana Field Laboratory (NPDES Permit No. CA0001309) Outfalls 019 and 020 [7]						
Constituent	**Units**	**Current**		**Proposed**		**Reason for Change (Basis for Limit)**
		Daily Maximum	**Monthly Average**	**Daily Maximum**	**Monthly Average**	
Nitrite – N	mg/L	1	--	1	--	None
	lbs/day [1]	2.5 [2]	--	1.2 [3]	--	[4]
Nitrite + Nitrate as N	mg/L	8	--	8	--	None
	lbs/day [1]	20 [2]	--	9.6 [3]	--	[4]
Cyanide	µg/L	8.5	4.3	8.5	4.3	None
	lbs/day [1]	0.02 [2]	0.01 [2]	0.01 [3]	0.0052 [3]	[4]
Manganese	µg/L	50	--	50	--	None
	lbs/day [1]	0.13 [2]	--	0.06 [3]	--	[4]
Antimony	µg/L	6	--	6	--	None
	lbs/day [1]	0.015 [2]	--	0.0072 [3]	--	[4]
Arsenic	µg/L	10	--	10	--	None
	lbs/day [1]	0.025 [2]	--	0.012 [3]	--	[4]
Beryllium	µg/L	4	--	4	--	None
	lbs/day [1]	0.01 [2]	--	0.005 [3]	--	[4]
Cadmium	µg/L	4/3.1 [5]	2	4/3.1 [5]	2	None
	lbs/day [1]	0.01[2]/0.008[5]	0.005[2]	0.005[3]/0.004[5]	0.0024[3]	[4]
Chromium VI	µg/L	16	8	16	8	None
	lbs/day [1]	0.04 [2]	0.02 [2]	0.02 [3]	0.01 [3]	[4]
Copper	µg/L	14	7.1	14	5.8	CTR
	lbs/day [1]	0.035 [2]	0.018 [2]	0.017 [3]	0.007 [3]	CTR [4]
Lead	µg/L	5.2	2.6	5.2	2.6	None
	lbs/day [1]	0.013 [2]	0.007 [2]	0.006 [3]	0.003 [3]	[4]
Mercury	µg/L	0.1	0.05	0.1	0.05	None
	lbs/day [1]	2.5E-04 [2]	1.3E-04 [2]	1.2E-04 [3]	6E-05 [3]	[4]
Nickel	µg/L	96	35	86	35	CTR
	lbs/day [1]	0.24 [2]	0.09 [2]	0.1 [3]	0.04 [3]	CTR [4]
Selenium	µg/L	8.2/5 [6]	4.1	8.2/5[6]	4.1	None
	lbs/day [1]	0.02 [2]/0.01[6]	0.01 [2]	0.01 [3]/0.006 [6]	0.005 [3]	[4]
Silver	µg/L	4.1	2	4.1	2	None
	lbs/day [1]	0.01 [2]	0.005 [2]	0.005 [3]	0.0024 [3]	[4]
Thallium	µg/L	2	--	2	--	None
	lbs/day [1]	0.005 [2]	--	0.0024 [3]	--	[4]
Zinc	µg/L	119	54	119	43	CTR
	lbs/day [1]	0.3 [2]	0.14 [2]	0.14 [3]	0.052 [3]	CTR [4]
Perchlorate	µg/L	6	--	6	--	None
	lbs/day [1]	0.015 [2]	--	0.0072 [3]	--	[4]

Limits Comparison Table 2 The Boeing Company, Santa Susana Field Laboratory (NPDES Permit No. CA0001309) Outfalls 019 and 020 [7]						
Constituent	**Units**	**Current**		**Proposed**		**Reason for Change (Basis for Limit)**
		Daily Maximum	**Monthly Average**	**Daily Maximum**	**Monthly Average**	
TCDD	µg/L	2.8E-08	1.4E-08	2.8E-08	1.4E-08	None
	lbs/day [1]	7E-11	3.5E-11	3.4E-11 [3]	1.6E-11 [3]	[4]
Trichloroethylene	µg/L	5	--	5	--	None
	lbs/day [1]	0.01 [2]	--	0.006 [3]	--	[4]
2,4,6-Trichlorophenol	µg/L	13	6.5	13	6.5	None
	lbs/day [1]	0.033 [2]	0.016 [2]	0.016 [3]	0.008 [3]	[4]
2,4-Dinitrotoluene	µg/L	18	9.1	18	9.1	None
	lbs/day [1]	0.045 [2]	0.023 [2]	0.022 [3]	0.011 [3]	[4]
alpha-BHC	µg/L	0.03	0.01	0.03	0.01	None
	lbs/day [1]	7.5E-05 [2]	2.5E-05 [2]	4E-05 [3]	1.25E-05 [3]	[4]
Bis(2-ethylhexyl) phthalate	µg/L	4	--	4	--	None
	lbs/day [1]	0.01 [2]	--	0.005	--	[4]
N-Nitrosodimethylamine	µg/L	16	8.1	16	8.1	None
	lbs/day [1]	0.04 [2]	0.02 [2]	0.02 [3]	0.01 [3]	[4]
Pentachlorophenol	µg/L	16.5	8.2	16.5	8.2	None
	lbs/day [1]	0.04 [2]	0.02 [2]	0.02 [3]	0.01 [3]	[4]
1,1-Dichloroethylene	µg/L	6	3.2	6	3.2	None
	lbs/day [1]	0.015 [2]	0.008 [2]	0.007 [3]	0.004 [3]	[4]
Acute toxicity	% survival	[8]	--	--	--	No exceedance. No RP.
Chronic Toxicity	--	$TU_c = 1$ [9]	--	Pass or % Effect <50 [10] (TST Approach)	Pass or Fail	Proposed method is USEPA recommend-ed method [11]
Radioactivity -						
Gross Alpha	pCi/L	15	--	15	--	None
Gross Beta	pCi/L	50	--	50	--	None
Combined Radium 226 & Radium-288	pCi/L	5	--	5	--	None
Tritium	pCi/L	20,000	--	20,000	--	None
Strontium-90	pCi/L	8	--	8	--	None

[1] Mass is calculated using the equation:
Mass (lbs/day) = Flow (million gallons per day (MGD) x 8.34 x concentration (mg/L)

[2] A flow of 0.3 MGD was used to calculate mass. This is a recalculation of the limit based on MGD permitted flow.

[3] A flow of 0.144 MGD was used to calculate mass.

[4] The difference in mass values is due to variance of flow. The proposed revised tentative used a flow of 0.144 MGD and the existing permit (R4-2010-0090) used a flow of 0.3 MGD, to calculate mass values.

[5] Effluent limit applies only during wet weather discharges, when the maximum daily flow in the LA River is equal to or greater than 500 cubic feet per second (cfs).

[6] Effluent limit applies only during dry weather discharges, when the maximum daily flow in the LA River is less than 500 cfs.

[7] Outfall 020 is a new outfall, permitted to discharge treated groundwater pending approval from California Dept. of fish and Wildlife.

[8] The acute toxicity for all of the effluent discharges shall be such that: (i) the average survival in the undiluted effluent for any three (3) consecutive 96-hour static or continuous flow bioassay tests shall be at least 90%, and (ii) no single test producing less than 70 % survival. No Reasonable Potential.

[9] The chronic toxicity of the effluent shall be expressed and reported in toxic units, where:

$$TU_c = \frac{100}{NOEC} = 1$$

The No Observable Effect Concentration (NOEC) is expressed as the maximum percent effluent concentration that causes no observable effect on test organisms, as determined by the results of a critical life stage toxicity test.

[10] "Pass" or "Fail" and "% Effect" for Maximum Daily Effluent Limitations (MDEL). The Discharger demonstrates compliance with the chronic toxicity MDELs if the chronic toxicity testing result meets one of the following:

i. The chronic toxicity testing result is "Pass"; or

ii. The percent effect is less than 50 if the chronic toxicity result is "Fail".

[11] More recently, US EPA has recommended the use of a chronic toxicity limit using the Test of Significant Toxicity (TST) method, which is a more sensitive method.

Limits Comparison Table 3
The Boeing Company, Santa Susana Field Laboratory
(NPDES Permit No. CA0001309)
Outfalls 003, 004, 005, 006, 007, 009, and 010

Constituent	Units	Current Daily Maximum	Proposed Daily Maximum	Reason for Change (Basis for Limit)
pH	pH Units	6.5/8.5	6.5/8.5	None
Temperature	°F	86	86	None
Total dissolved solids	mg/L	850	850	None
	lbs/day [1]	92,506 [2]	456,034 [3]	[4]
Oil and grease	mg/L	15	15	None
	lbs/day [1]	1,632 [2]	8,048 [3]	[4]
Sulfate	mg/L	250	250	None
	lbs/day [1]	27,207 [2]	134,128 [3]	[4]
Fluoride	mg/L	1.6	1.6	None
	lbs/day [1]	174 [2]	858 [3]	[4]
Chloride	mg/L	150	150	None
	lbs/day [1]	16,325 [2]	80,477 [3]	[4]

Limits Comparison Table 3 The Boeing Company, Santa Susana Field Laboratory (NPDES Permit No. CA0001309) Outfalls 003, 004, 005, 006, 007, 009, and 010				
Constituent	**Units**	**Current Daily Maximum**	**Proposed Daily Maximum**	**Reason for Change (Basis for Limit)**
Boron	mg/L	1	1	None
	lbs/day [1]	109 [2]	537 [3]	[4]
Nitrite + Nitrate as N	mg/L	10	10	None
	lbs/day [1]	1,088 [2]	5,365 [3]	[4]
Cyanide	µg/L	9.5	9.5	None
	lbs/day [1]	1,034 [2]	5.1 [3]	[4]
Antimony	µg/L	6	6	None
	lbs/day [1]	653 [2]	3.22 [3]	[4]
Cadmium	µg/L	--	4.4	CTR
	lbs/day [1]	--	2.15 [3]	CTR [4]
Copper	µg/L	14	13	CTR
	lbs/day [1]	1.5 [2]	7 [3]	CTR [4]
Lead	µg/L	5.2	5.2	None
	lbs/day [1]	0.6 [2]	2.8 [3]	[4]
Mercury	µg/L	0.13	0.13	None
	lbs/day [1]	0.014 [2]	0.07 [3]	[4]
Nickel	µg/L	100	86	CTR
	lbs/day [1]	10.48 [2]	46.14 [3]	CTR [4]
Thallium	µg/L	2	2	None
	lbs/day [1]	0.22 [2]	1.1 [3]	[4]
Zinc	µg/L	--	120	CTR
	lbs/day [1]	--	64 [3]	CTR [4]
Perchlorate	µg/L	6	6	None
	lbs/day [1]	0.65 [2]	3.22 [3]	[4]
TCDD	µg/L	2.8E-08	2.8E-08	None
	lbs/day [1]	3.0E-09 [2]	1.5E-08 [3]	[4]
Acute toxicity	% survival	[5]	--	No exceedance. No RP.
Chronic Toxicity	--	$TU_c = 1$ [6]	Pass or % Effect <50 (TST Approach) [7]	Proposed method is USEPA recommended method [8]
Radioactivity - Gross Alpha Gross Beta	 pCi/L pCi/L	 15 50	 15 50	 None None
Combined Radium 226 & Radium-288	pCi/L	5	5	None
Tritium	pCi/L	20,000	20,000	None
Strontium-90	pCi/L	8	8	None

[1] Mass is calculated using the equation:
Mass (lbs/day) = Flow (million gallons per day (MGD)) x 8.34 x concentration (mg/L)

[2] A flow of 13.09 MGD was used to calculate mass. This is a recalculation of the limit based on substraction of 4.8 MGD of Outfall 8 permitted flow.

[3] A flow of 64.33 MGD was used to calculate mass.

[4] The difference in mass values is due to variance of flow. The flow used to calculate the mass in the proposed WDRs is the maximum that will be generated during the 10 year 24-hour storm event, which was estimated using the Storm Water Management Model (SWMM) (USEPA, 2010). The proposed revised tentative used a flow of 64.33 mgd and the existing permit (R4-2010-0090) used a flow of 13.09 mgd, to calculate mass values.

[5] The acute toxicity for all of the effluent discharges shall be such that: (i) the average survival in the undiluted effluent for any three (3) consecutive 96-hour static or continuous flow bioassay tests shall be at least 90%, and (ii) no single test producing less than 70 % survival. No Reasonable Potential.

[6] The chronic toxicity of the effluent shall be expressed and reported in toxic units, where:

$$TU_c = \frac{100}{NOEC} = 1$$

The No Observable Effect Concentration (NOEC) is expressed as the maximum percent effluent concentration that causes no observable effect on test organisms, as determined by the results of a critical life stage toxicity test.

[7] "Pass" or "Fail" and "% Effect" for Maximum Daily Effluent Limitations (MDEL) using Test of Significant Toxicity (TST) approach. The Discharger demonstrates compliance with the chronic toxicity MDELs if the chronic toxicity testing result meets one of the following:

i. The chronic toxicity testing result is "Pass"; or

ii. The percent effect is less than 50 if the chronic toxicity result is "Fail".

[8] More recently, US EPA has recommended the use of a chronic toxicity limit using the Test of Significant Toxicity (TST) method, which is a more sensitive method.

Limits Comparison Table 4
The Boeing Company, Santa Susana Field Laboratory
(NPDES Permit No. CA0001309)
Outfall 008

Constituent	Units	Current Daily Maximum	Proposed Daily Maximum	Reason for Change (Basis for Limit)
pH	pH Units	6.5/8.5	6.5/8.5	None
Temperature	°F	86	86	None
Total dissolved solids	mg/L	950	950	None
	lbs/day [1]	38,380 [2]	57,124 [3]	[4]
Oil and grease	mg/L	15	15	None
	lbs/day [1]	600 [2]	902 [3]	[4]
Sulfate	mg/L	300	300	None
	lbs/day [1]	12,009 [2]	18,039 [3]	[4]
Fluoride	mg/L	1.6	1.6	None
	lbs/day [1]	64 [2]	96.2 [3]	[4]
Chloride	mg/L	150	150	None
	lbs/day [1]	6,005 [2]	9,020 [3]	[4]
Boron	mg/L	1	1	None
	lbs/day [1]	40 [2]	60 [3]	[4]

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Constituent	**Units**	**Current Daily Maximum**	**Proposed Daily Maximum**	**Reason for Change (Basis for Limit)**
Ammonia – N	mg/L	10.1	10.1	None
	lbs/day [1]	404 [2]	607.3 [3]	[4]
Nitrate – N	mg/L	8	8	None
	lbs/day [1]	320 [2]	481 [3]	[4]
Nitrite – N	mg/L	1	1	None
	lbs/day [1]	40 [2]	60 [3]	[4]
Nitrite + Nitrate as N	mg/L	8	8	None
	lbs/day [1]	320 [2]	481 [3]	[4]
Cyanide	µg/L	9.5	9.5	None
	lbs/day [1]	0.38 [2]	0.57 [3]	[4]
Antimony	µg/L	6	6	None
	lbs/day [1]	0.24 [2]	0.36 [3]	[4]
Cadmium	µg/L	4 [6]/3.1 [5]	4 [6]/3.1 [5]	None
	lbs/day [1]	0.16 [2,6]/0.12	0.24 [3,6]/0.19 [5]	[4]
Copper	µg/L	14	14	None
	lbs/day [1]	0.56 [2]	0.84 [3]	[4]
Lead	µg/L	5.2	5.2	None
	lbs/day [1]	0.21 [2]	0.31 [3]	[4]
Mercury	µg/L	0.13	0.13	None
	lbs/day [1]	0.005 [2]	0.008 [3]	[4]
Nickel	µg/L	100	86	CTR
	lbs/day [1]	4 [2]	5.2 [3]	CTR [4]
Selenium	µg/L	5	5	None
	lbs/day [1]	0.2 [2]	0.3 [3]	[4]
Thallium	µg/L	2	2	None
	lbs/day [1]	0.08 [2]	0.12 [3]	[4]
Zinc	µg/L	159	120	CTR
	lbs/day [1]	6.37 [2]	7.22 [3]	CTR [4]
Perchlorate	µg/L	6	6	None
	lbs/day [1]	0.24 [2]	0.36 [3]	[4]
TCDD	µg/L	2.8E-08	2.8E-08	None
	lbs/day [1]	1.1E-09	1.7E-09	[4]
Acute toxicity	% survival	[7]	--	No exceedance. No RP.
Chronic Toxicity	--	$TU_c = 1$ [8]	Pass or % Effect <50 (TST Approach)[9]	Proposed method is USEPA recommended method [10]
Radioactivity - Gross Alpha Gross Beta	 pCi/L pCi/L	 15 50	 15 50	None None None

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Constituent	**Units**	**Current Daily Maximum**	**Proposed Daily Maximum**	**Reason for Change (Basis for Limit)**
Combined Radium 226 & Radium-288	pCi/L	5	5	None
Tritium	pCi/L	20,000	20,000	None
Strontium-90	pCi/L	8	8	None

[1] Mass is calculated using the equation:
Mass (lbs/day) = Flow (million gallons per day (mgd)) x 8.34 x concentration (mg/L)

[2] A flow of 4.8 MGD was used to calculate mass This is a recalculation of the limit based on 4.8 MGD of Outfall 8 permitted flow.

[3] A flow of 7.21 mgd was used to calculate mass.

[4] The difference in mass values is due to variance of flow. The flow used to calculate the mass in the proposed tentative is the maximum that will be generated during the 10 year 24-hour storm event, which was estimated using the Storm Water Management Model (SWMM) (USEPA, 2010)..

[5] Effluent limit applies only during wet weather discharges, when the maximum daily flow in the LA River is equal to or greater than 500 cubic feet per second (cfs).

[6] Effluent limit applies only during dry weather discharges, when the maximum daily flow in the LA River is less than 500 cfs.

[7] The acute toxicity for all of the effluent discharges shall be such that: (i) the average survival in the undiluted effluent for any three (3) consecutive 96-hour static or continuous flow bioassay tests shall be at least 90%, and (ii) no single test producing less than 70 % survival. No Reasonable Potential.

[8] The chronic toxicity of the effluent shall be expressed and reported in toxic units, where:

$$TU_c = \frac{100}{NOEC} = 1$$

The No Observable Effect Concentration (NOEC) is expressed as the maximum percent effluent concentration that causes no observable effect on test organisms, as determined by the results of a critical life stage toxicity test.

[9] "Pass" or "Fail" and "% Effect" for Maximum Daily Effluent Limitations (MDEL) using Test of Significant Toxicity (TST) approach. The Discharger demonstrates compliance with the chronic toxicity MDELs if the chronic toxicity testing result meets one of the following:

i. The chronic toxicity testing result is "Pass"; or
ii. The percent effect is less than 50 if the chronic toxicity result is "Fail".

[10] More recently, US EPA has recommended the use of a chronic toxicity limit using the Test of Significant Toxicity (TST) method, which is a more sensitive method.